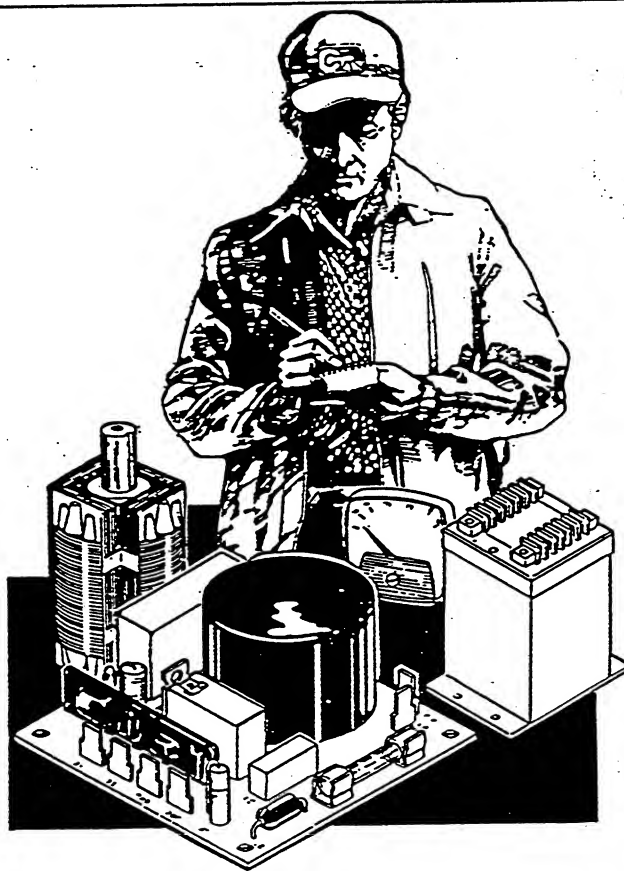




# Parts Catalog

DNDA / DWDA  
DNDB / DWDB

## PMG GENERATOR SET




## General Information

For part or service, contact the distributor from whom you purchased this equipment or refer to the nearest Authorized Cummins Distributor.

To avoid errors or delays in filling your parts order, always give the full **MODEL**, **SERIAL** and **ID No.** from the nameplate.

For handy reference, insert "YOUR" nameplate information in the spaces below.

		<b>AC Generator Set</b>	
		<b>Model</b> _____	
kw	kva	pf	phase
voltage		amps	
duty		overload	
rpm		hs	
class of insulation		pmg voltage	
field amp max		field voltage max	
generator model no.			
voltage regulator model no.			
ID no.			
generator set serial no.			
BS5000		NEMA	

# Important Safety Precautions

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Read and observe these safety precautions when using or working on electric generators, engines and related equipment. Also read and follow the literature provided with the equipment.

Proper operation and maintenance are critical to performance and safety. Electricity, fuel, exhaust, moving parts and batteries present hazards that can cause severe personal injury or death.

## FUEL, ENGINE OIL, AND FUMES ARE FLAMMABLE AND TOXIC

Fire, explosion, and personal injury can result from improper practices.

- Used engine oil, and benzene and lead, found in some gasoline, have been identified by government agencies as causing cancer or reproductive toxicity. When checking, draining or adding fuel or oil, do not ingest, breathe the fumes, or contact gasoline or used oil.
- Do not fill tanks with engine running. Do not smoke around the area. Wipe up oil or fuel spills. Do not leave rags in engine compartment or on equipment. Keep this and surrounding area clean.
- Inspect fuel system before each operation and periodically while running.
- Equip fuel supply with a positive fuel shutoff.
- Do not store or transport equipment with fuel in tank.
- Keep an ABC-rated fire extinguisher available near equipment and adjacent areas for use on all types of fires except alcohol.
- Unless provided with equipment or noted otherwise in installation manual, fuel lines must be copper or steel, secured, free of leaks and separated or shielded from electrical wiring.
- Use approved, non-conductive flexible fuel hose for fuel connections. Do not use copper tubing as a flexible connection. It will work-harden and break.

## EXHAUST GAS IS DEADLY

- Engine exhaust contains carbon monoxide (CO), an odorless, invisible, poisonous gas. Learn the symptoms of CO poisoning.
- Never sleep in a vessel, vehicle, or room with a genset or engine running unless the area is equipped with an operating CO detector with an audible alarm.
- Each time the engine or genset is started, or at least every day, thoroughly inspect the exhaust system. Shut down the unit and repair leaks immediately.

- Warning: Engine exhaust is known to the State of California to cause cancer, birth defects and other reproductive harm.

*Make sure exhaust is properly ventilated.*

- Vessel bilge must have an operating power exhaust.
- Vehicle exhaust system must extend beyond vehicle perimeter and not near windows, doors or vents.
- Do not use engine or genset cooling air to heat an area.
- Do not operate engine/genset in enclosed area without ample fresh air ventilation.
- Expel exhaust away from enclosed, sheltered, or occupied areas.
- Make sure exhaust system components are securely fastened and not warped.

## MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not remove any guards or covers with the equipment running.
- Keep hands, clothing, hair, and jewelry away from moving parts.
- Before performing any maintenance, disconnect battery (negative [–] cable first) to prevent accidental starting.
- Make sure fasteners and joints are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while equipment is running, use extreme caution around hot manifolds and moving parts, etc. Wear safety glasses and protective clothing.

## BATTERY GAS IS EXPLOSIVE

- Wear safety glasses and do not smoke while servicing batteries.
- Always disconnect battery negative (–) lead first and reconnect it last. Make sure you connect battery correctly. A direct short across battery terminals can cause an explosion. Do not smoke while servicing batteries. Hydrogen gas given off during charging is explosive.
- Do not disconnect or connect battery cables if fuel vapors are present. Ventilate the area thoroughly.

## **DO NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENTS**

Flammable vapor can be ignited by equipment operation or cause a diesel engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. **Do not operate diesel equipment where a flammable vapor environment can be created by fuel spill, leak, etc., unless equipped with an automatic safety device to block the air intake and stop the engine.**

## **HOT COOLANT CAN CAUSE SEVERE PERSONAL INJURY**

- Hot coolant is under pressure. Do not loosen the coolant pressure cap while the engine is hot. Let the engine cool before opening the pressure cap.

## **ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH**

- Do not service control panel or engine with unit running. High voltages are present. Work that must be done while unit is running should be done only by qualified service personnel.
- Do not connect the generator set to the public utility or to any other electrical power system. Electrocutation can occur at a remote site where line or equipment repairs are being made. An approved transfer switch must be used if more than one power source is connected.
- Disconnect starting battery (negative [–] cable first) before removing protective shields or touching electrical equipment. Use insulative mats placed on dry wood platforms. Do not wear jewelry, damp clothing or allow skin surface to be damp when handling electrical equipment.
- Use insulated tools. Do not tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- With transfer switches, keep cabinet closed and locked. Only authorized personnel should have cabinet or operational keys. Due to serious shock hazard from high voltages within cabinet, all service and adjustments must be performed by an electrician or authorized service representative.

If the cabinet must be opened for any reason:

1. Move genset operation switch or Stop/Auto/Handcrank switch (whichever applies) to Stop.
2. Disconnect genset batteries (negative [–] lead first).
3. Remove AC power to automatic transfer switch. If instructions require otherwise, use extreme caution due to shock hazard.

## **MEDIUM VOLTAGE GENERATOR SETS (601V TO 15kV)**

- Medium voltage acts differently than low voltage. Special equipment and training are required to work on or around medium voltage equipment. Operation and maintenance must be done only by persons trained and qualified to work on such devices. Improper use or procedures will result in severe personal injury or death.
- Do not work on energized equipment. Unauthorized personnel must not be permitted near energized equipment. Induced voltage remains even after equipment is disconnected from the power source. Plan maintenance with authorized personnel so equipment can be de-energized and safely grounded.

## **GENERAL SAFETY PRECAUTIONS**

- Do not work on equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.
- Never step on equipment (as when entering or leaving the engine compartment). It can stress and break unit components, possibly resulting in dangerous operating conditions from leaking fuel, leaking exhaust fumes, etc.
- Keep equipment and area clean. Oil, grease, dirt, or stowed gear can cause fire or damage equipment by restricting airflow.
- Equipment owners and operators are solely responsible for operating equipment safely. Contact your authorized Onan/Cummins dealer or distributor for more information.

**KEEP THIS DOCUMENT NEAR EQUIPMENT FOR EASY REFERENCE.**

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## Introduction

This Parts Manual applies to the Standard Gen Sets Listed below. The illustrations are arranged in groups of related items, and each part or assembly is identified by a Reference Number. All parts illustrated are typical, and unless otherwise mentioned in the description column the parts are interchangeable between models.

These typical illustrations are subject to change and reflect only the latest replacement parts arrangement. The Right and Left sides of the Set are determined by FACING the FRONT (Engine end) of the Set.

### Set Data Table

MODEL IDENTIFICATION	RATING	RPM RATING	BATTERY VOLTAGE
60.0 DNDA/DWDA - */ # @	60,000 WATTS	1500 RPM	24 VDC
80.0 DNDA/DWDA - */ # @	80,000 WATTS	1800 RPM	24 VDC
85.0 DNDB/DWDB - */ # @	85,000 WATTS	1500 RPM	24 VDC
100.0 DNDB/DWDB - */ # @	100,000 WATTS	1800 RPM	24 VDC

### Electrical Data Table

*VOLTAGE CODE	VOLTS	HERTZ	WIRE	PHASE	NOTES
H	347/600	60	4	3	
L	120/208	60	12	3	+
	127/220	60	12	3	
	139/240	60	12	3	
	240/416	60	12	3	
	254/440	60	12	3	
	277/480	60	12	3	
Z	110/190	50	12	3	+
	115/200	50	12	3	
	120/208	50	12	3	
	127/220	50	12	3	
	220/380	50	12	3	
	230/400	50	12	3	
	240/416	50	12	3	
	254/440	50	12	3	

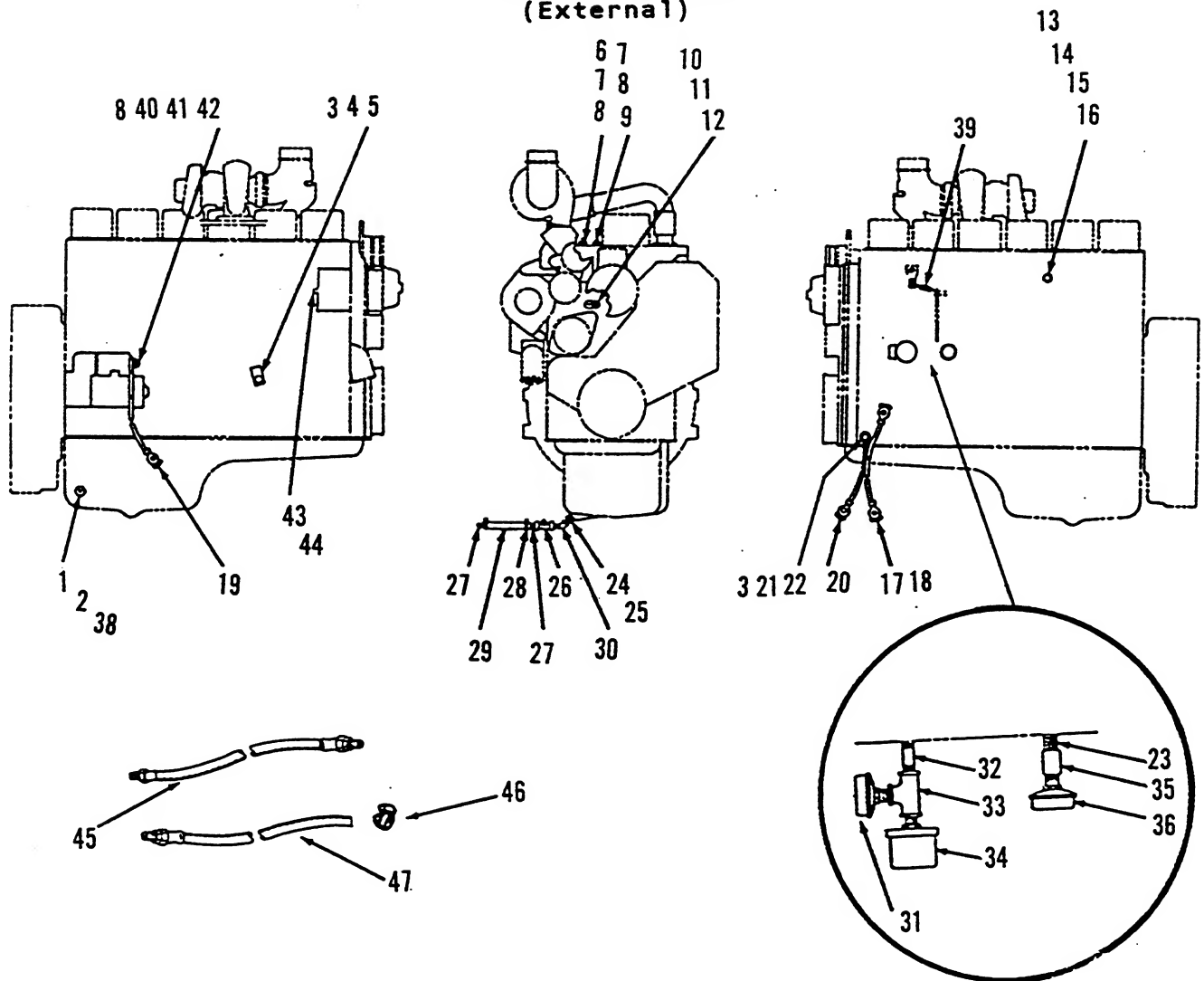
- \* - Voltage Codes follow Model Letter designations.
- # - Specification Number: Number 1 is Standard, all others indicate variations.
- @ - Specification Letter: Letter advances ( A to B, B to C, etc) with major manufacturing changes.
- + - The Stators are Reconnectible.

### Engine Replacement Parts

The Engine replacement parts can be ordered from the Cummins Engine Distributer except those parts modified or added during the Gen Set Assembly. When ordering engine parts, refer to the Engine Data plate and supply the Model, Serial, and CPL numbers. For assistance in ordering the Engine replacement parts, contact the nearest Cummins Engine Distributor or the Supplier from whom you purchased the Generator Set.

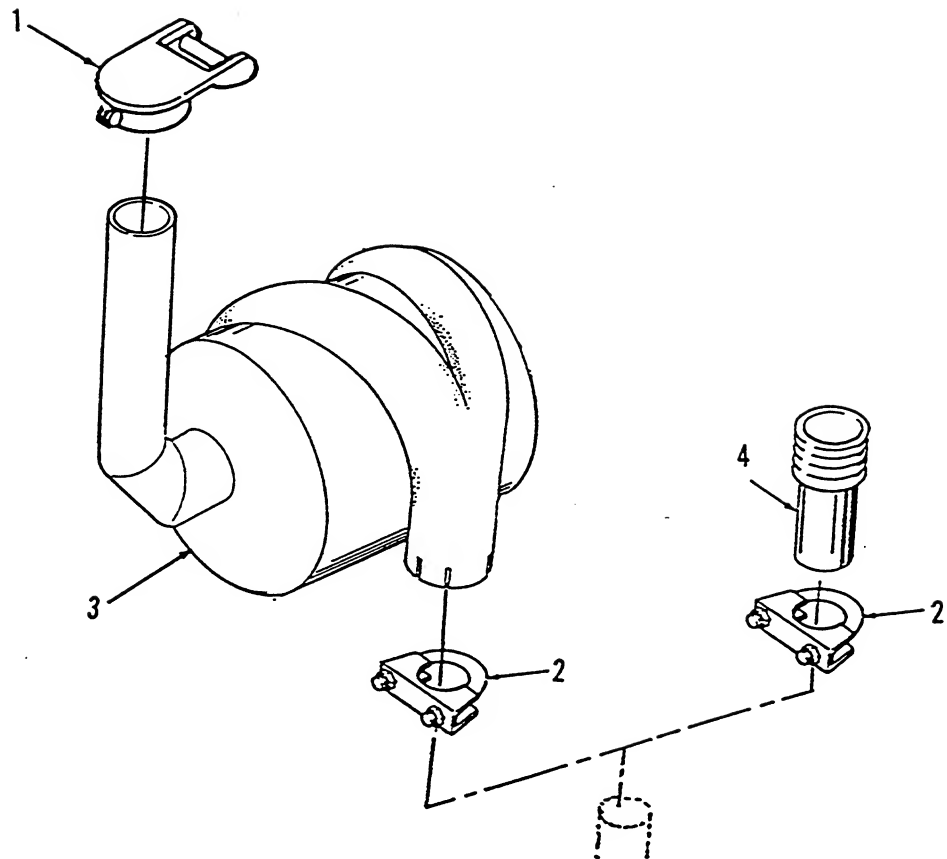


# Engine Components (External)



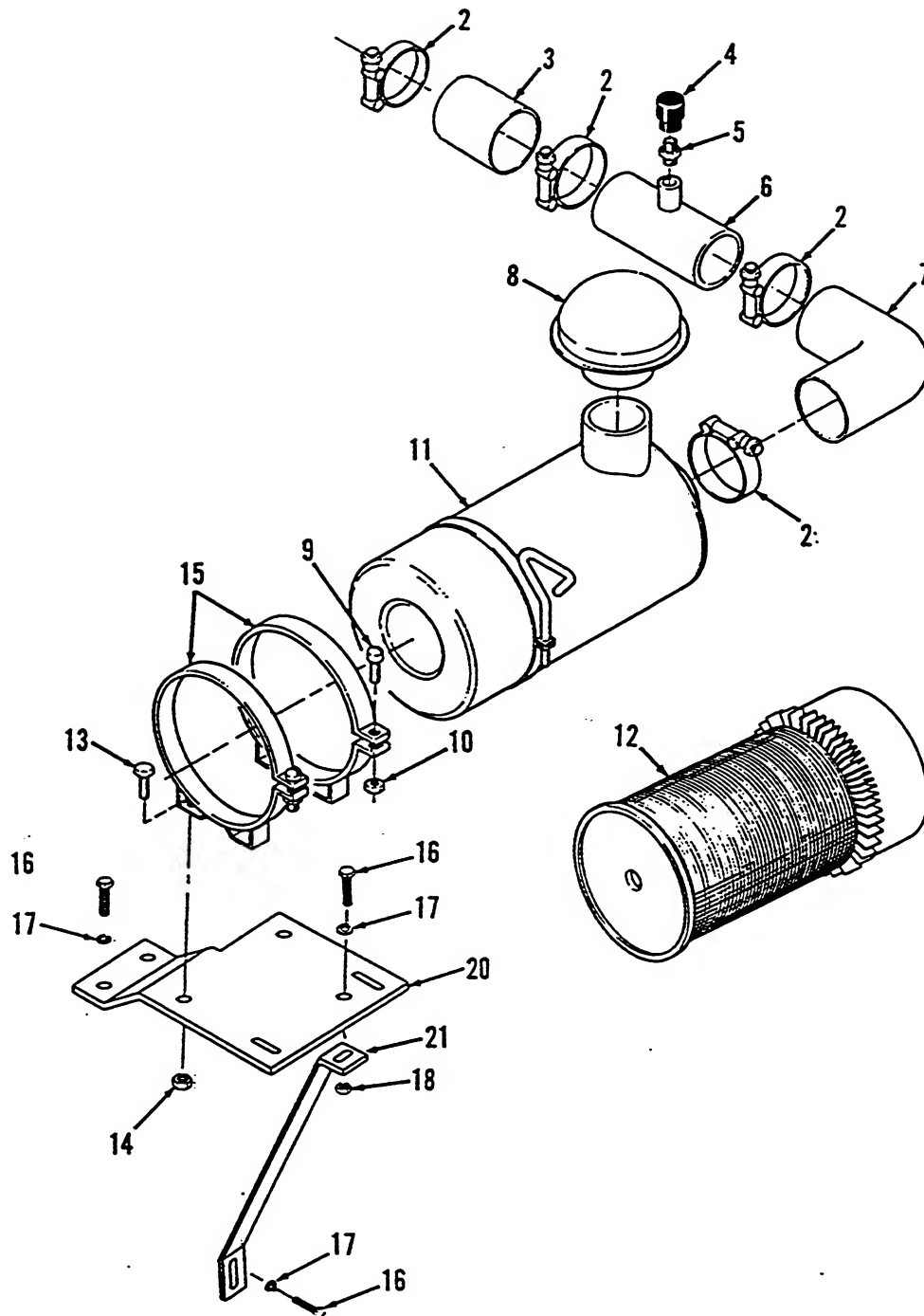
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	193-0353	1	Sender, Temperature - Oil	22	850-2012	1	Washer, Lock (M12)
2	187-0146	1	Washer, Sealing	23	505-0098	1	Nipple, Close
3	856-0013	3	Washer, Lock - EIT (1/2")	24	102-1147	1	Gasket, Drain - Oil Pan
4	332-2739	1	Bracket Assembly, Terminal	25	102-1237	1	Adapter, Drain - Oil
5	800-2112	1	Screw, Cap - Hex Head (M12-1.75 x 30mm)	26	504-0011	1	Valve, Shutoff
6	309-0554	1	Switch, Temperature	27	505-0185	2	Nipple, Half
7	812-0075	1	Screw, Machine - Round Head (#8-32 x 1/4")	28	503-0197	2	Clamp, Hose
8	850-0025	2	Washer, Lock (#8)	29	503-0098	1	Hose, Drain (6")
9	309-0553	1	Switch, Temperature	30	505-0248	1	Elbow, Pipe - Street
10	800-2060	1	Screw, Cap - Hex Head (M8-1.25 x 35mm)	31	309-0169	1	Switch, Pressure - Oil
11	850-2008	1	Washer, Lock (M8)	32	505-0104	1	Nipple, Pipe - Short
12	309-0269	1	Switch, Temperature	33	505-0059	1	Tee, Pipe - Black
13	193-0375	1	Sender, Temperature	34	193-0244	1	Sender, Pressure - Oil
14	526-0008	2	Washer, Flat (#10)	35	505-0026	1	Coupling, Pipe
15	850-0030	1	Washer, Lock (#10)	36	309-0272	1	Switch, Pressure - Oil
16	871-0010	1	Nut, Cap - Hex Head (#10-32)	38	505-1373	1	Bushing, Reducer
17	416-0446	1	Cable, Battery (9")	39	145-0596	1	Spring, Extension - Throttle
18	332-0941	2	Tie, Cable	40	871-0028	1	Nut, Hex (3/8-16)
19	416-0444	1	Cable, Battery (44")	41	850-0050	1	Washer, Lock - Spring (3/8")
20	416-0893	1	Cable, Battery (10")	42	860-0008	1	Nut, Hex (#8-32)
21	800-2110	1	Screw, Cap - Hex Head (M12-1.75 x 20mm)	43	115-0025	1	Nut, Hex (1/4-28)
				44	850-0040	1	Washer, Lock - Spring (1/4")
				45	501-0441	1	Line, Fuel - Flex (Fuel In)
				46	503-0685	1	Clamp, Hose
				47	501-0502	1	Line, Fuel - Flex (Fuel Out)

# Exhaust System



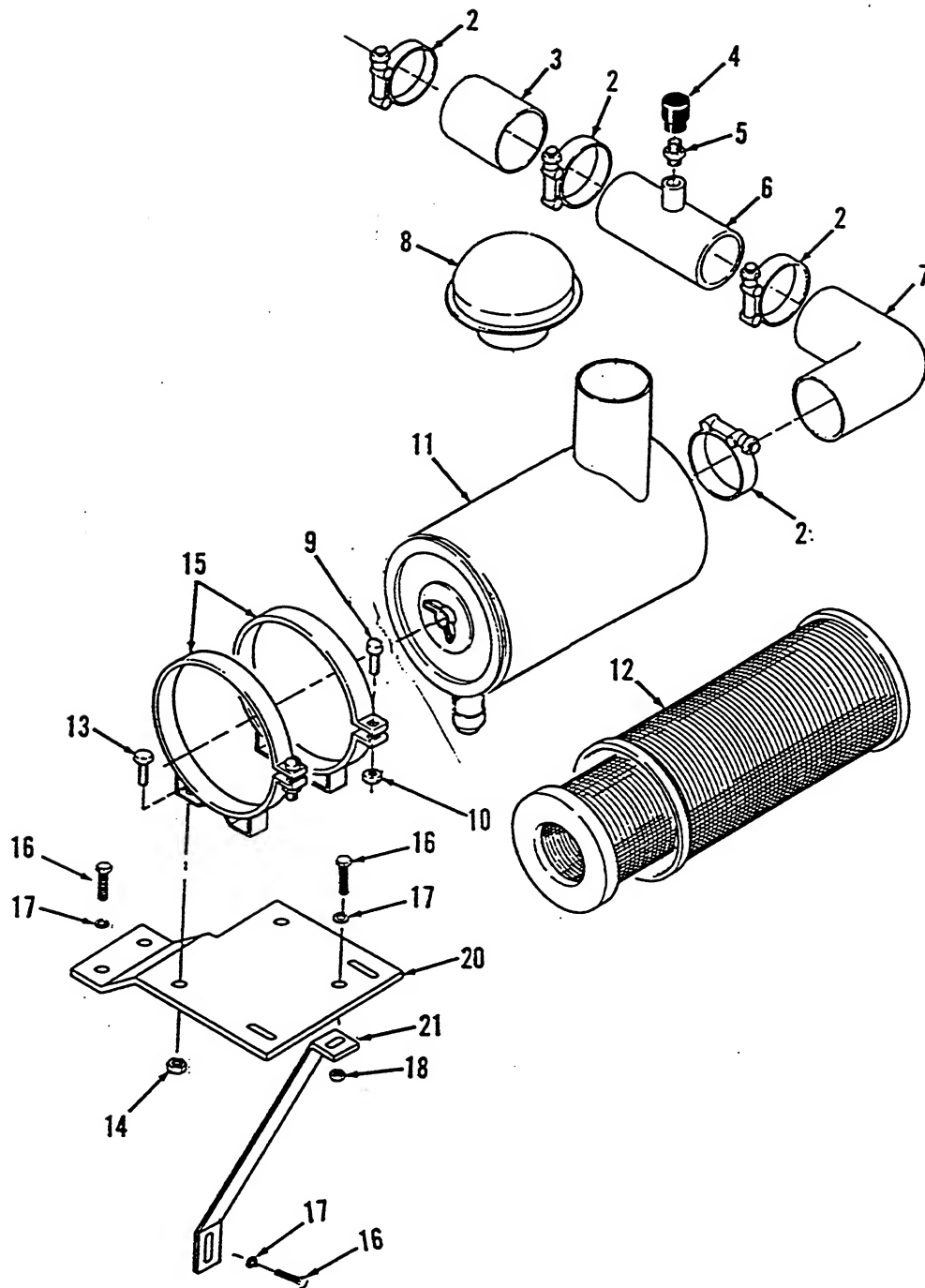
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	155-2062-03	1	Cap, Rain	3	155-2263	1	Silencer
2	155-2175	1	Clamp, Muffler	4	154-2253	1	Adapter, Exhaust

# Air Cleaner - Standard



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0998	2	Clamp, Hose	12	140-2148	1	Element, Air Cleaner
2	503-0868	1	Clamp, Hose	13	821-0033	3	Screw, Self-locking - Hex Head (7/16-14 x 3/4")
3	503-1543	1	Hose, Reducing	14	870-0437	3	Nut, Lock (7/16-14)
4	140-1548	1	Indicator, Service	15	140-0078	2	Band, Mounting
5	140-1260	1	Adapter, Indicator	16	800-2110	4	Screw, Cap - Hex Head (M12 x .8 x 20mm)
6	140-2166	1	Tube, Inlet - Air	17	850-2012	4	Washer, Lock - Spring (M12)
7	503-1542	1	Elbow, Hose - Reducing	18	750-1010	1	Nut, Hex (M12)
8	140-2157	1	Cap, Air Cleaner	19	503-0999	1	Clamp, Hose
9	815-0115	2	Screw, Machine - Fillister Head (1/4-20 x 1")	20	140-2153	1	Bracket, Mounting
10	863-0002	2	Nut, Square (1/4-20)	21	140-2154	1	Brace, Mounting
11	140-2147	1	Cleaner, Air (Includes Element)				

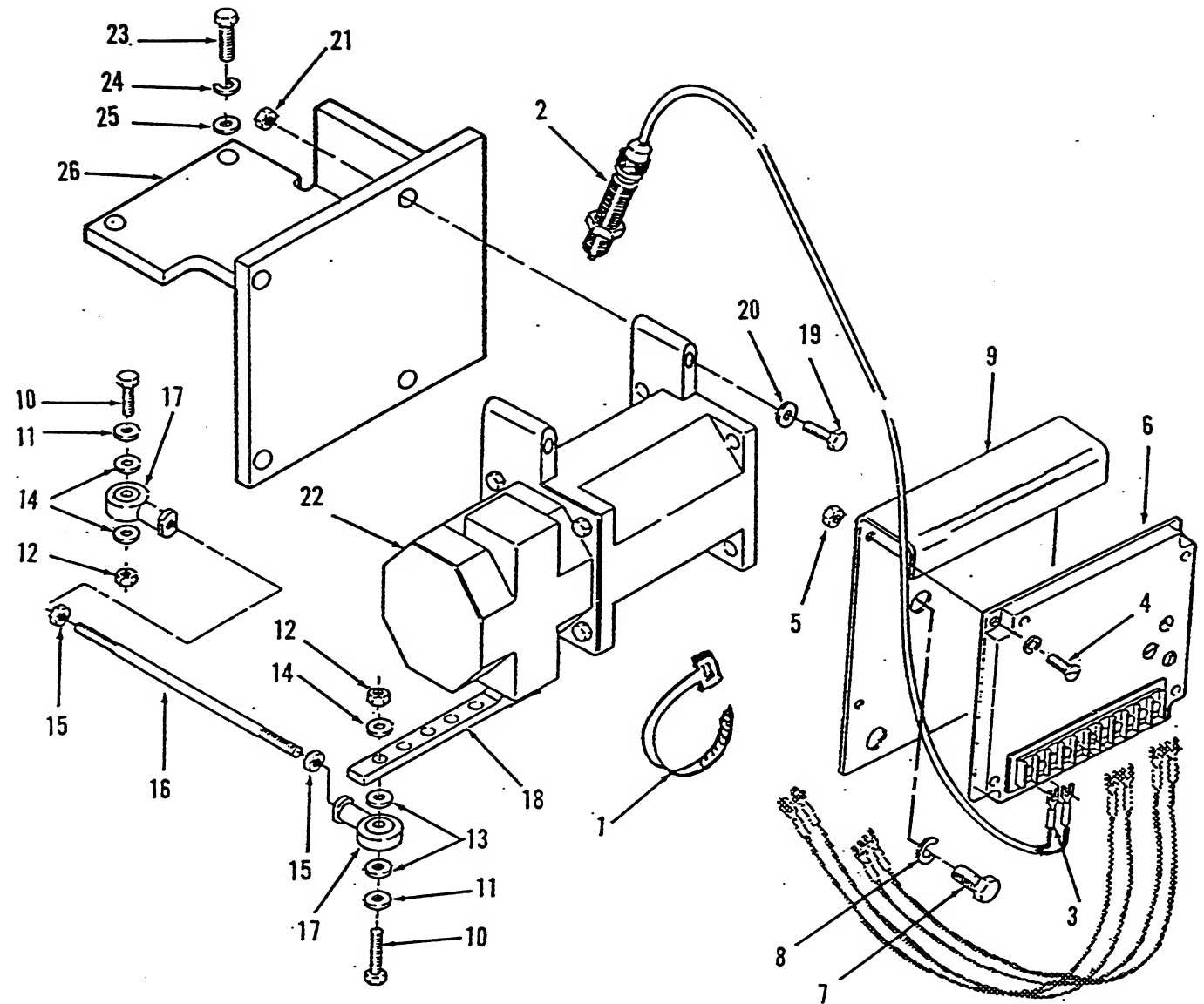
# Air Cleaner - Heavy Duty



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
2	503-0868	4	Clamp, Hose
3	503-1460	1	Hose
4	140-1548	1	Indicator, Service
5	140-1260	1	Adapter, Indicator
6	140-2152	1	Tube, Inlet - Air
7	503-1467	1	Elbow
8	140-1435	1	Cap, Air Cleaner
9	815-0115	2	Screw, Machine - Fillister Head (1/4-20 x 1")
10	863-0002	2	Nut, Square, (1/4-20)
11	140-2149	1	Cleaner, Air (Includes Element)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
12	140-2148	1	Element, Air Cleaner Primary
	140-2150	1	Secondary
13	821-0033	4	Screw, Self-locking - Hex Head (7/16-14 x 3/4")
14	870-0437	4	Nut, Lock (7/16-14)
15	140-1599	2	Band, Mounting
16	800-2110	4	Screw, Cap - Hex Head (M12 x .8 x 20mm)
17	850-2012	4	Washer, Lock - Spring (M12)
18	750-1010	1	Nut, Hex (M12)
20	140-2153	1	Bracket, Mounting
21	140-2154	1	Brace, Mounting

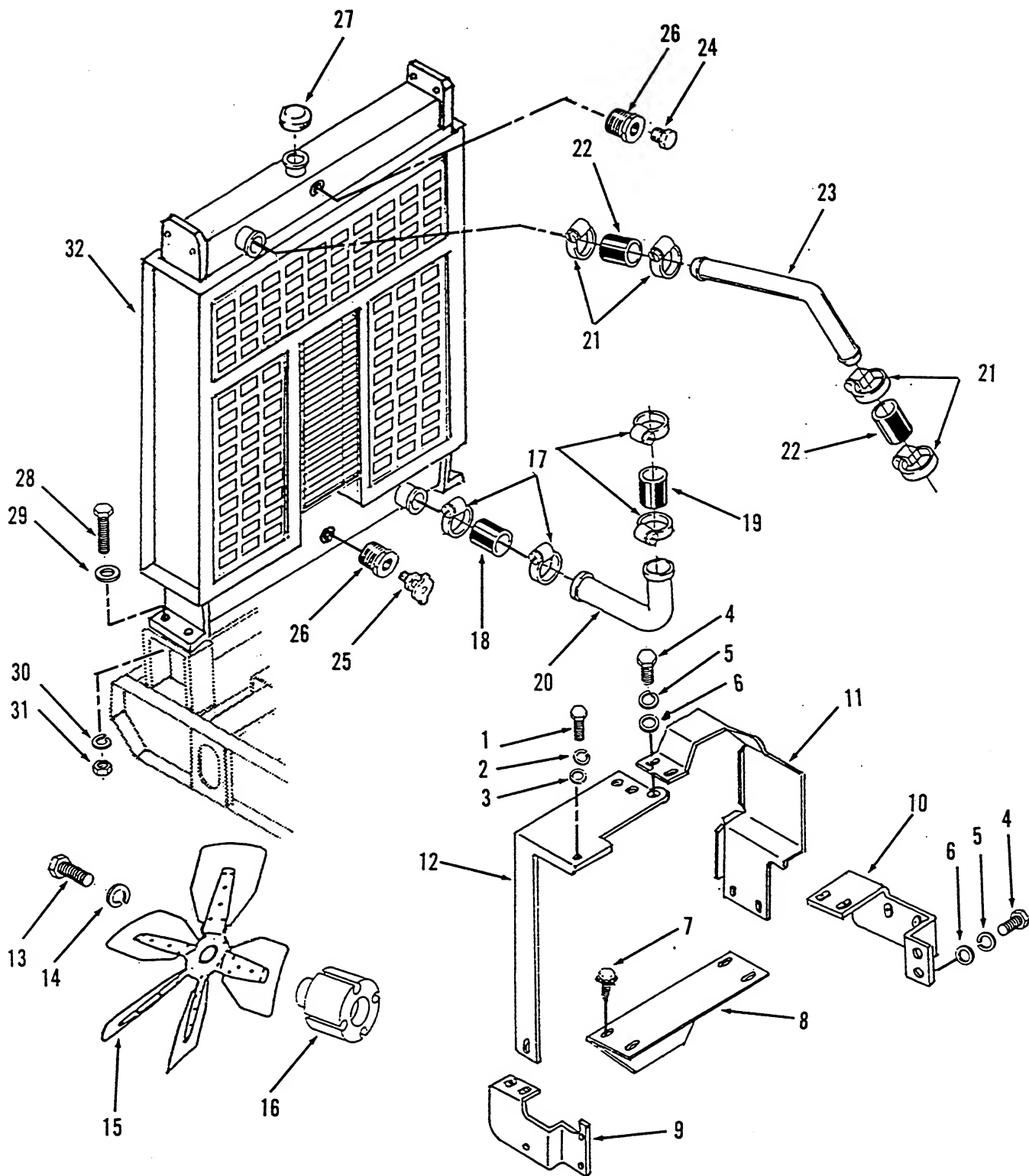
# Electronic Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-1445	5	Tie, Cable
2	150-2201	1	Sensor, Speed - Includes Leads, Less Terminals
3			Terminal, Electrical (For all Electrical Leads)
	332-1279	8	Spade, #6
	332-0325	1	Ring, #10
	332-1087	1	Ring, 1/2"
4	813-0103	4	Screw, Machine - Round Head (#10-32 x 3/4")
5	870-0131	4	Nut, Hex - W/ET (#10-32) (Not used all installations)
6	151-0611	1	Control, Governor
7	800-2110	2	Screw, Cap - Hex Head (M12 x 1.75 x 20mm)
8	850-2012	2	Washer, Flat (M12)
9	150-2007	1	Bracket, Mounting
10	815-0172	2	Screw, Machine - Hex Head (#10-32 x 1")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
11	526-0327	2	Washer, Flat (13/64)
12	870-0131	2	Nut, Hex - W/ET (#10-32)
13	526-0008	2	Washer, Flat (#10)
14	526-0196	3	Washer, Flat - Aluminum
15	870-0053	2	Nut, Hex (#10-32)
16	150-2218-02	1	Rod - Governor
17	150-2200	2	Joint, Ball
18	150-2203	1	Lever, Actuator - Governor
19	800-0012	4	Screw, Cap - Hex Head (1/4-20 x 2 1/4")
20	526-0018	4	Washer, Flat (1/4)
21	870-0212	4	Nut, Self-locking - Hex (1/4-20)
22	151-0632	1	Actuator, Governor (24VDC)
23	800-2060	3	Screw, Cap - Hex Head (M8 x 1.25 x 35mm)
24	850-2008	3	Washer, Lock (M8)
25	526-0115	3	Washer, Flat (M8)
26	150-2187	1	Bracket, Governor

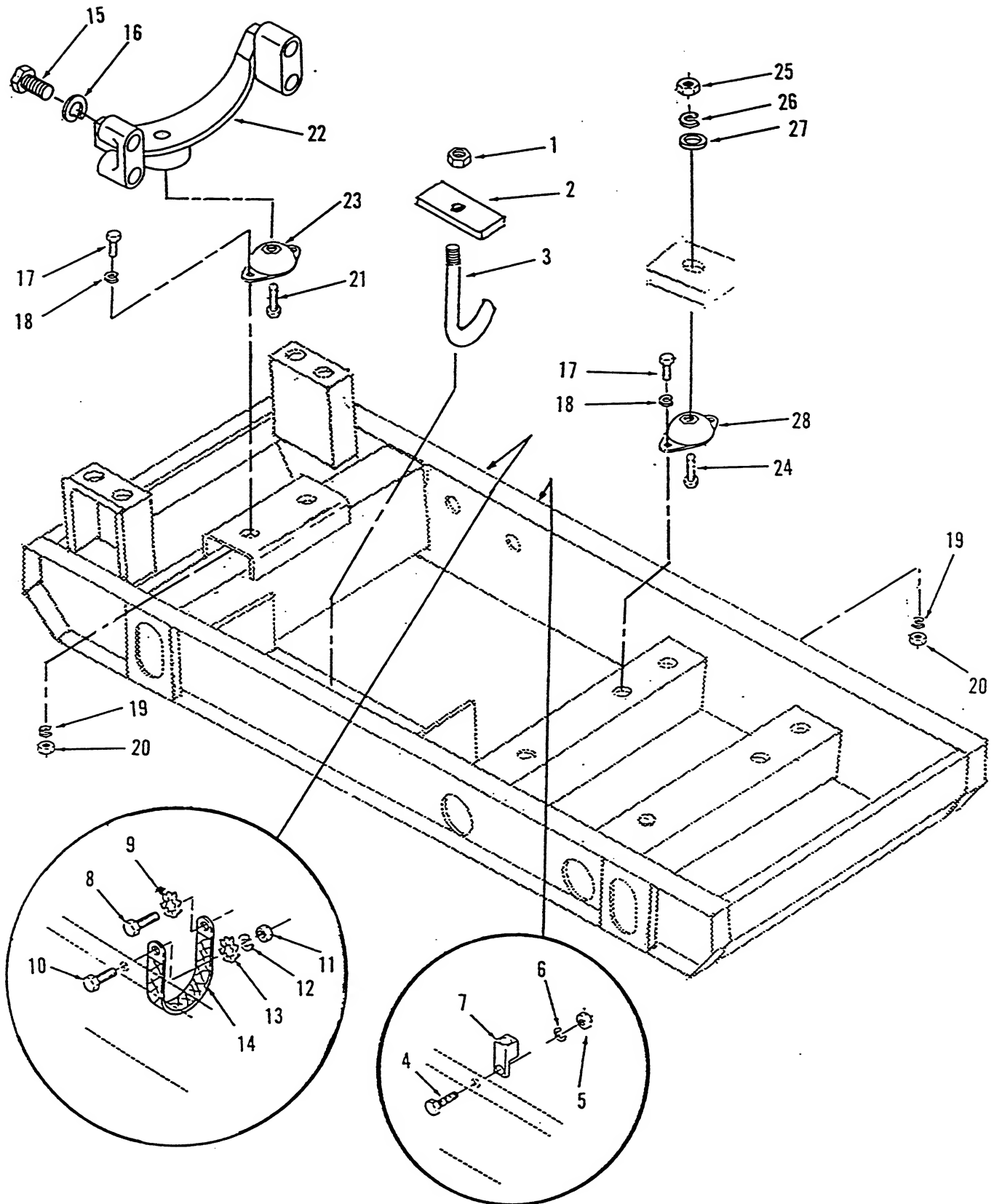
# Cooling System (Radiator)



# Cooling System (Radiator)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-2084	1	Screw, Cap - Hex Head (M10 x 1.5 x 16mm)	15	130-3117	1	Fan, Radiator
2	526-2120	1	Washer, Flat (M10)	16	130-3114	1	Spacer, Fan
3	850-2010	1	Washer, Lock - Spring (M10)	17	503-0354	4	Clamp, Hose
4	800-2110	5	Screw, Cap - Hex Head (M12 x 1.75 x 20mm)	18	503-1379-02	1	Hose, Radiator
5	526-2140	5	Washer, Flat (M12)	19	503-1379-03	1	Hose, Radiator
6	850-2012	5	Washer, Lock - Spring (M12)	20	130-3147	1	Tube, Outlet - Radiator
7	821-0009	9	Screw, Self-locking - Hex (1/4-20 x 3/8")	21	503-0365	4	Clamp, Hose
8	130-3121	1	Plate, Bottom	22	503-1391-01	2	Hose, Radiator
9	130-3124	1	Guard, Belt (Right Side)	23	130-3149	1	Tube, Inlet - Radiator
10	130-3125	1	Guard, Belt (Left Side)	24	502-0153	1	Plug, Hex Head (1/4 NPT)
11	130-3127	1	Guard, Belt - Alternator	25	504-0003	1	Cock, Drain
12	130-3126	1	Guard, Belt - Alternator	26	502-1033	2	Adapter, Metric To NPT
13	718-1044	4	Screw, Cap - Hex Head (M8 x 1.25 x 60mm)	27		1	Cap, Radiator
14	850-2008	4	Washer, Lock - Spring (M8)	28	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")
				29	526-0022	4	Washer, Flat (5/16)
				30	850-0045	4	Washer, Lock - Spring (5/16)
				31	862-0015	4	Nut, Hex (5/16-18)
				32	130-3278	1	Radiator

# Chassis

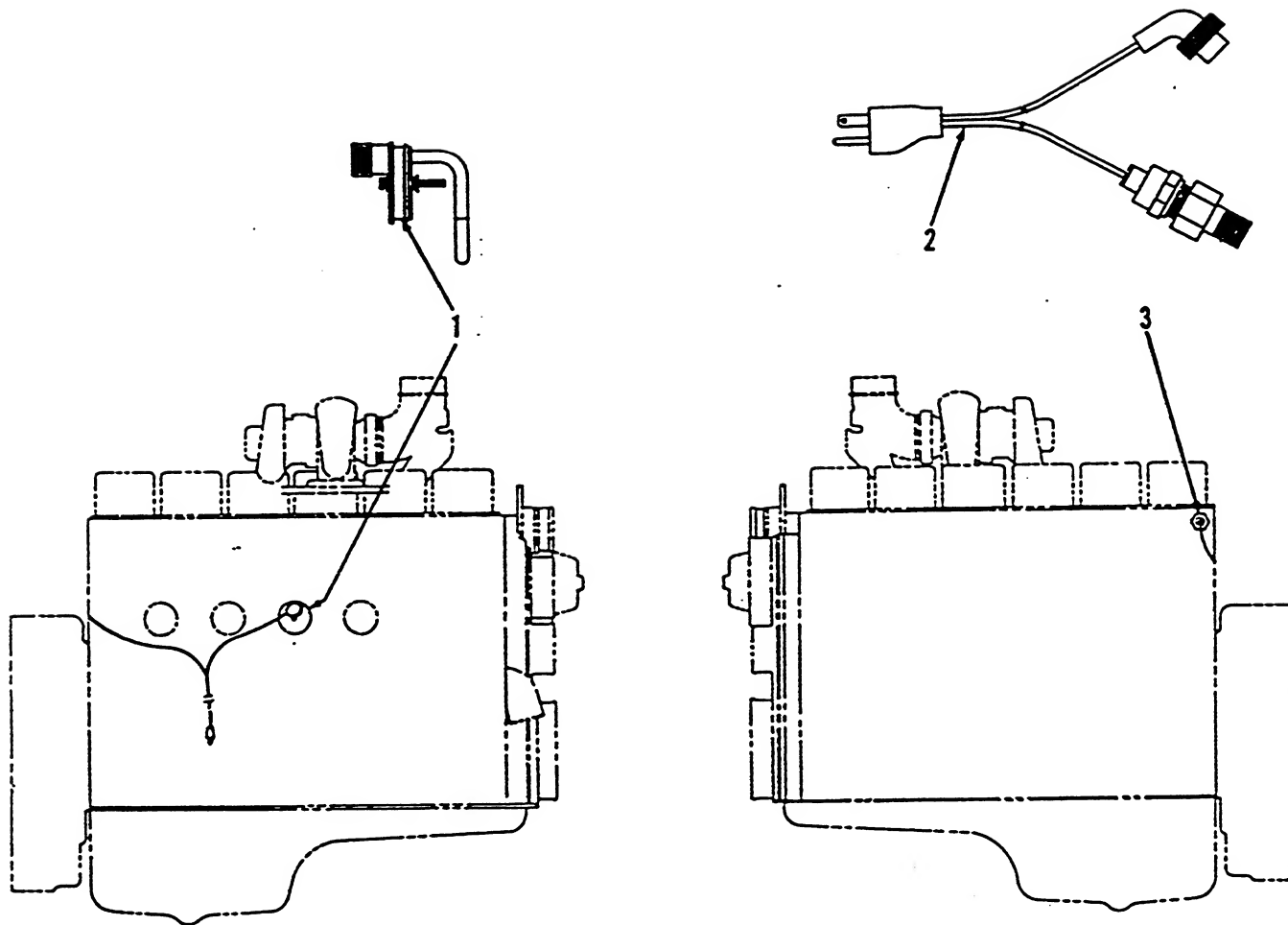




# Chassis

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0212	1	Nut, Lock (1/4-20)	15	800-2120	4	Screw, Cap - Hex Head (M12 x 1.75 x 70mm)
2	416-0854	1	Bracket, Mounting - Battery	16	850-2012	5	Washer, Lock (M12)
3	416-0853	1	Holddown, Battery	17	800-0092	10	Screw, Cap - Hex Head (1/2-13 x 1-1/2")
4	800-0026	1	Screw, Cap - Hex Head (5/16-18 x 3/4")	18	850-0060	10	Washer, Lock - Spring (1/2")
5	856-0008	1	Washer, Lock - EIT (5/16)	19	526-0219	10	Washer, Flat (1/2")
6	870-0257	1	Nut, Lock (5/16-18)	20	862-0016	10	Nut, Hex (1/2-13)
7	332-1473	1	Lug, Solderless	21	800-0520	3	Screw, Cap - Hex Head (3/4-10 x 1")
8	800-2111	1	Screw, Cap - Hex Head (M12 x 1.75 x 25mm)	22	403-2567	1	Support, Engine
9	856-0013	1	Washer, Lock - EIT (1/2")	23	402-0568	1	Mount, Vibration
10	800-0092	1	Screw, Cap - Hex Head (1/2-13 x 1-1/2")	24	800-0156	4	Screw, Cap - Hex Head (3/4-10 x 2-1/4")
11	862-0016	1	Nut, Hex (1/2-13)	25	862-0008	4	Nut, Hex (3/4-10)
12	850-0060	1	Washer, Lock - Spring (1/2")	26	850-0079	2	Washer, Lock - Spring (3/4")
13	856-0013	1	Washer Lock - EIT (1/2")	27	526-0238	2	Washer, Flat (3/4)
14	337-0090	1	Strap, Electrical	28	402-0466	2	Mount, Vibration

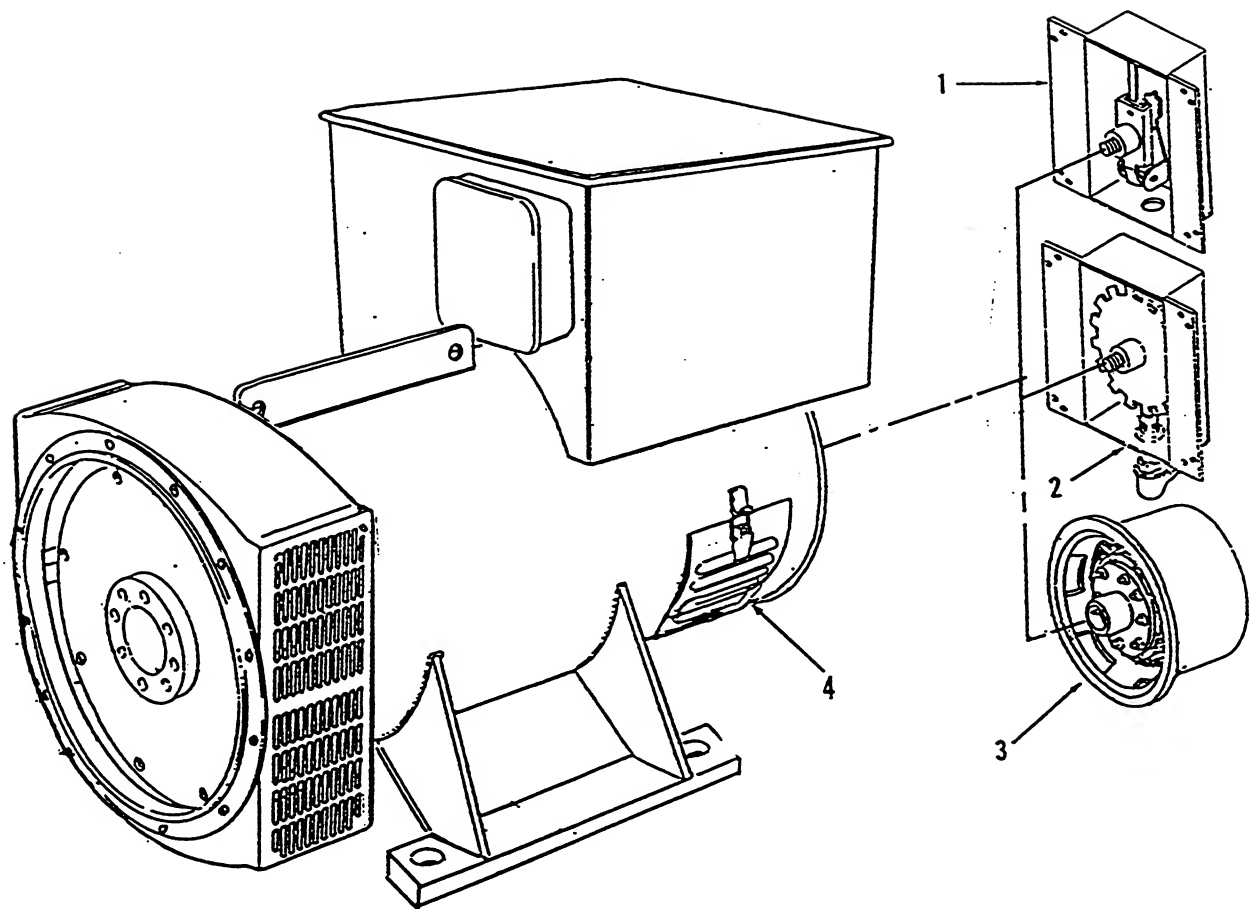
# Engine Coolant Heater



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Heater, Engine Coolant
	333-0291-01	1	120 VAC
	333-0291-02	1	240 VAC

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
2			Cable, Electrical (Includes Thermostat Switch)
	333-0292-01	1	120 VAC
	333-0292-02	1	240 VAC
3	505-0851	1	Bushing, Reducer

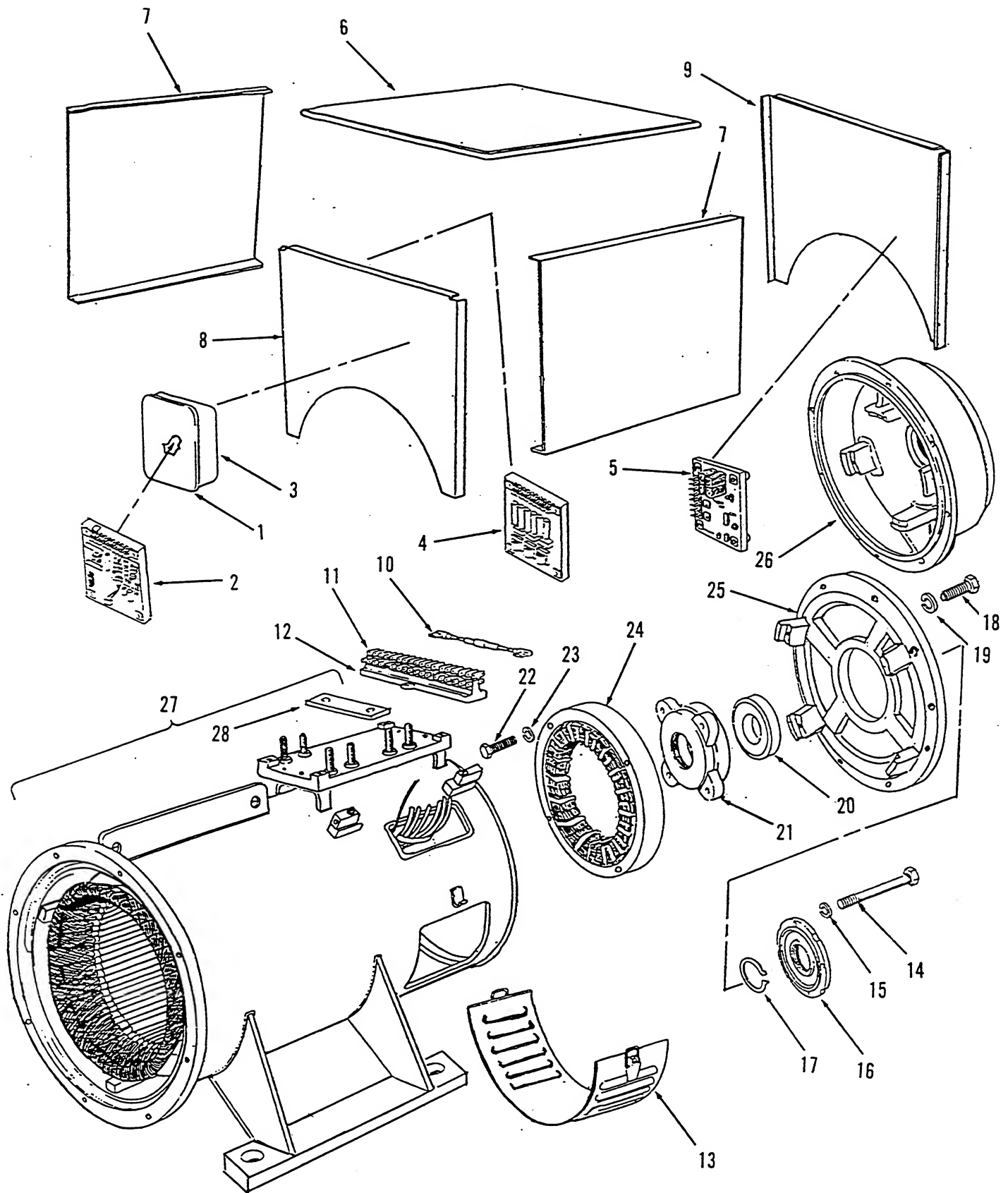
# Generator



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1		1	Module, Overspeed Switch (See Separate Page for Components)	4	Note 1		Generator (See Separate Pages for Stator and Rotor Components)
	821-2045	4	Attaching Parts Screw, Self-locking - Hex Hd (M8 x 1.25 x 16mm)		800-0156	4	Generator to Chassis Screw, Cap - Hex Head (3/4-10 x 2-1/2")
2		1	Module, Overspeed Sensor (See Separate Page for Components)		850-0079	4	Washer, Lock - Spring (3/4")
	821-2045	4	Attaching Parts Screw, Self-locking - Hex Hd (M8 x 1.25 x 16mm)		526-0238	4	Washer, Flat (3/4")
3		1	Module, Permanent Magnet Exciter (See Separate Page for Components)		862-0016	2	Nut, Hex (1/2-13)
	249-0298	4	Attaching Parts Screw, Cap - Hex Head (M8 x 16mm)		800-2088	12	Adapter to Flywheel Housing Screw, Cap - Hex Head (M10 x 1.5 x 35mm)
	249-0218	4	Washer, Lock (M8)		850-2010	12	Washer, Lock - Spring (M10)
	249-0315	4	Clamp, Retaining		805-0015	8	Drive Disc to Flywheel Bolt - Hex Head (3/8-16 x 3/4", Grade 8)
					526-0124	8	Washer, Flat (1-1/2"OD x 13/32"ID)

Note 1: For replacement Generator please supply the complete Gen Set nameplate and Generator nameplate data. The Replacement Generator will be shipped from closest warehouse or the factory. The replacement will not include PMG Exciter Module, Generator to Flywheel Housing Adapter, Drive Discs and Terminal Box.

# Generator Stator Section

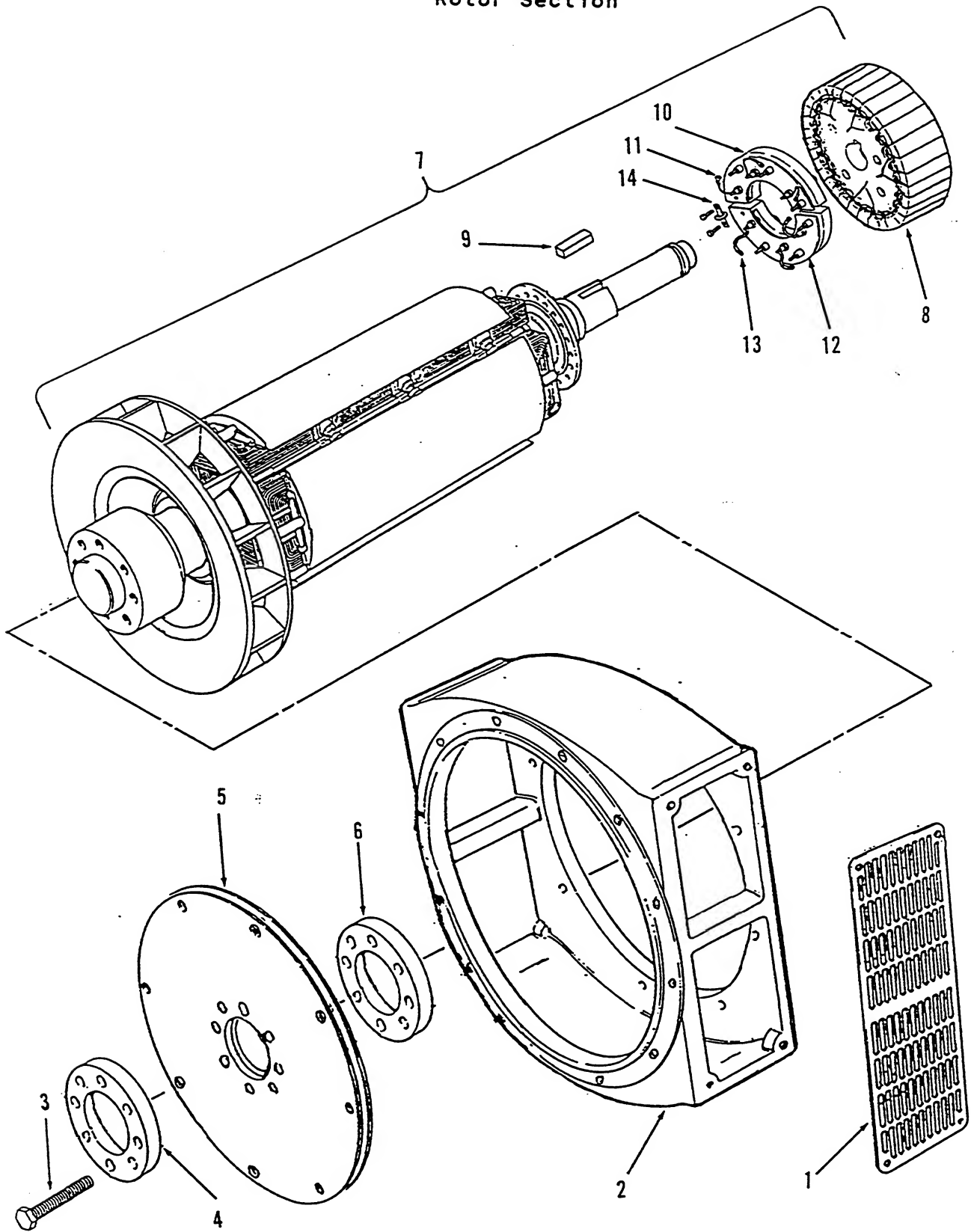


# Generator Stator Section

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	249-0401	1	Lid	13	249-0368	2	Grille, Inlet - Air
	249-0304	4	Attaching Parts Screw, Captive	14	249-0302	4	Screw, Cap - Hex Head (M10 x 65mm)
2	305-0779	1	Regulator, Voltage	15	249-0202	4	Washer, Lock - Spring (M10)
	305-0778	1	Standard	16	249-0362	1	Cap, Bearing - Outer
			3 Phase (Used with PMG Exciter & 3 Phase Sensing Module)	17	249-0444	1	Circlip
			Attaching Parts	18	249-0201	8	Screw, Cap - Hex Head (M10 x 35mm)
	249-0398	4	Pillar, Threaded	19	249-0202	8	Washer, Lock - Spring (M10)
3	249-0564	1	Module, 3 Phase Sensing	20	249-0312	1	Bearing, Ball
			Attaching Parts	21	249-0361	1	Cap, Bearing - Inner
	249-0398	4	Pillar, Threaded	22			Screw, Cap - Hex Head (M6 x 55mm) Standard Gen
4	249-0395	1	Box		249-0297	4	(M6 x 70mm) Ext Stack Gen
5	300-3209-02	1	Module, Frequency Detection	23	249-0212	4	Washer, Lock - Spring (M6)
			Attaching Parts	24			Stator, Exciter
	249-0295	4	Screw, Cap - Hex Head (M5 x 35mm)		249-0334	1	Standard Generator
	249-0288	4	Washer, Plastic (M5)		249-0366	1	Extended Stack Generator
	249-0287	4	Nut, Hex - Nylon (M5)	25	249-0354	1	Bracket, End-Standard Gen
6	NFS	1	Lid	26	249-0355	1	Bracket, End-Extended Stack Gen
7	NFS	2	Panel, Side	27	NFS	1	Stator, Generator (Includes Terminal Studs and Links)
8	NFS	1	Panel, Front				Attaching Parts Stator to Adapter
9	NFS	1	Panel, Rear		249-0201	8	Screw, Cap - Hex Head (M10 x 35mm)
10	249-0428	1	Resistor (Voltage Code H Only)		249-0202	8	Washer, Lock - Spring (M10)
11	249-0289	3	Block, Terminal - AUX	28	249-0404	4	Link, Terminal
12	249-0424	1	Base, Terminal - AUX				

NFS - Not For Sale

Generator  
Rotor Section

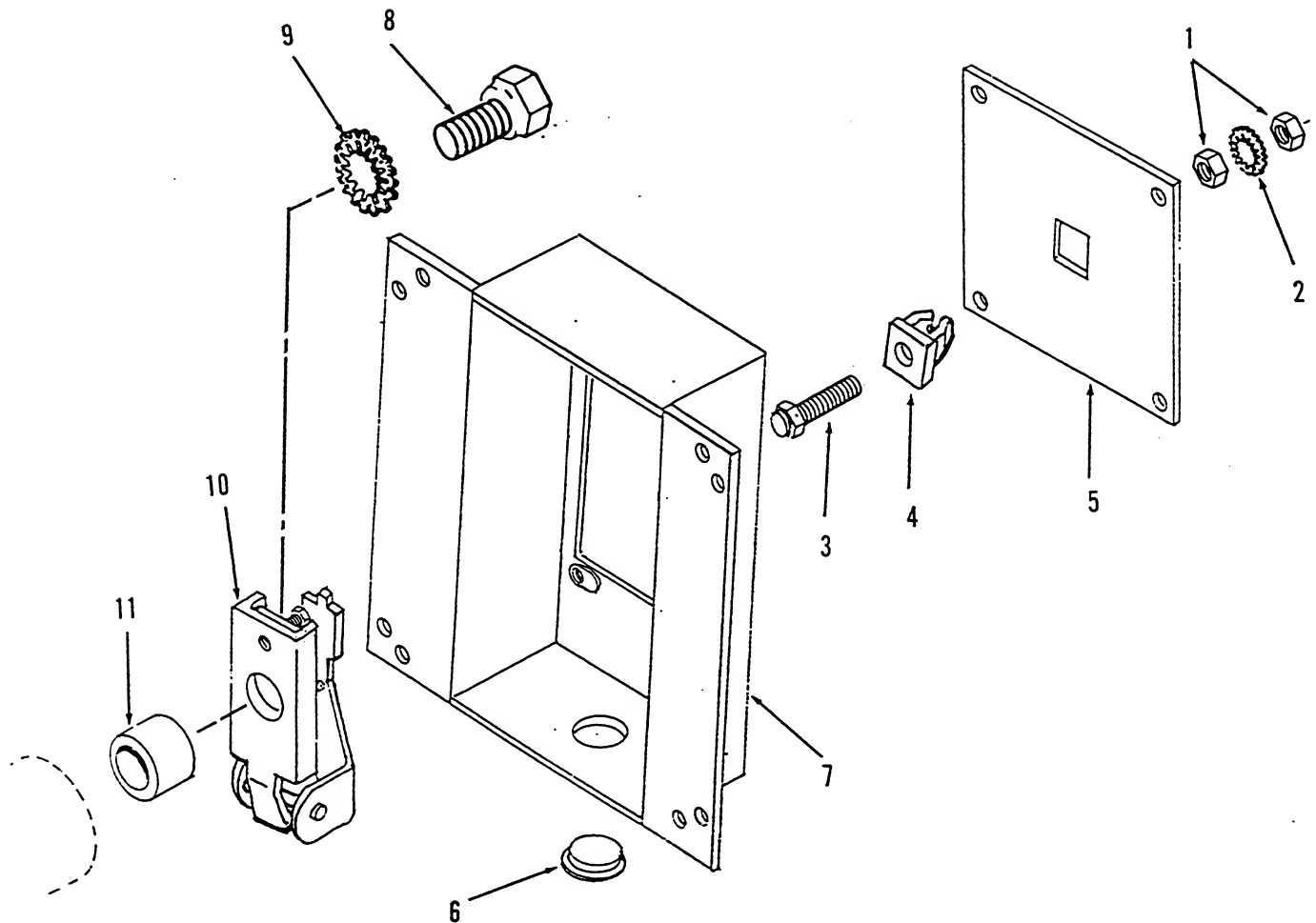


# **Generator Rotor Section**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	249-0341	2	Screen, Air - Adapter	8	249-0336	1	Rotor, Exciter (Does Not Include Rectifier Assy)
	249-0294	8	Attaching Parts Screw, Cap - Hex Head (M5 x 12mm)	8a	249-0367	1	Standard Generator Rotor, Exciter (Does Not Include Rectifier Assy)
	249-0307	8	Washer, Lock - Spring (M5)				Extended Stack Generators
	249-0308	8	Washer, Flat (M5)	9	249-0271	1	Key
2	249-0370		Adapter, Generator	10	249-0340	1	Rectifier Assy, Forward (Includes Item 11 Diodes)
3	249-0290	8	Screw, Cap - Hex Head (M16 x 75mm)	11	249-0281	1	Set, Forward Polarity Diode
4	249-0402	1	Plate, Pressure	12	249-0341	1	Rectifier Assy, Reverse (Includes Item 13 Diodes)
5	249-0327	3	Disc, Drive	13	249-0282	1	Set, Reverse Polarity Diode
6	249-0364	1	Spacer	14	249-0283	1	Varister
7	NFS	1	Rotor, Generator (Includes Exciter, Key, and Rectifier Assemblies)		249-0294	2	Attaching Parts Screw, Cap - Hex Head (M5 x 12mm)

NFS - Not For Sale

# Generator Overspeed Switch

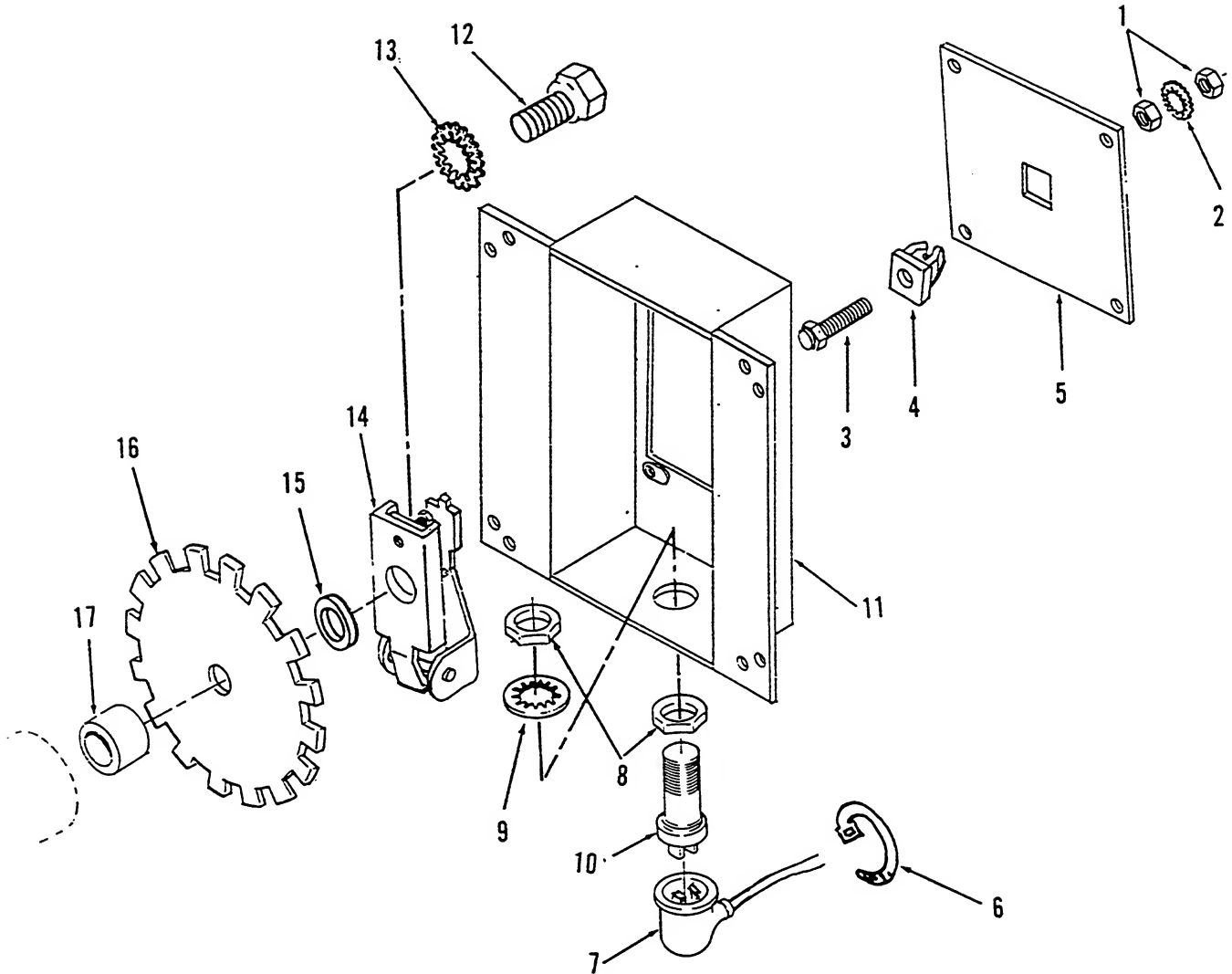


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	862-0001	2	Nut, Hex (1/4-20)
2	853-0013	1	Washer, Lock - EIT (1/4")
3	150-0723	1	Point, Overspeed
4	870-0250	1	Nut, Insulated
5	150-2206	1	Plate, Mounting
	821-0005	4	Screw, Self-locking - Hex (#10-32 x 1/2")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	517-0136	1	Plug, Plastic
7	150-2207	1	Cover, Overspeed Switch
8	718-1058	1	Screw, Cap - Hex Head (M10 x 1.5 x 45mm)
9	856-0010	1	Washer, Lock - EIT (3/8")
10	150-0956	1	Switch, Overspeed
11	370-4032	1	Spacer, Sleeve

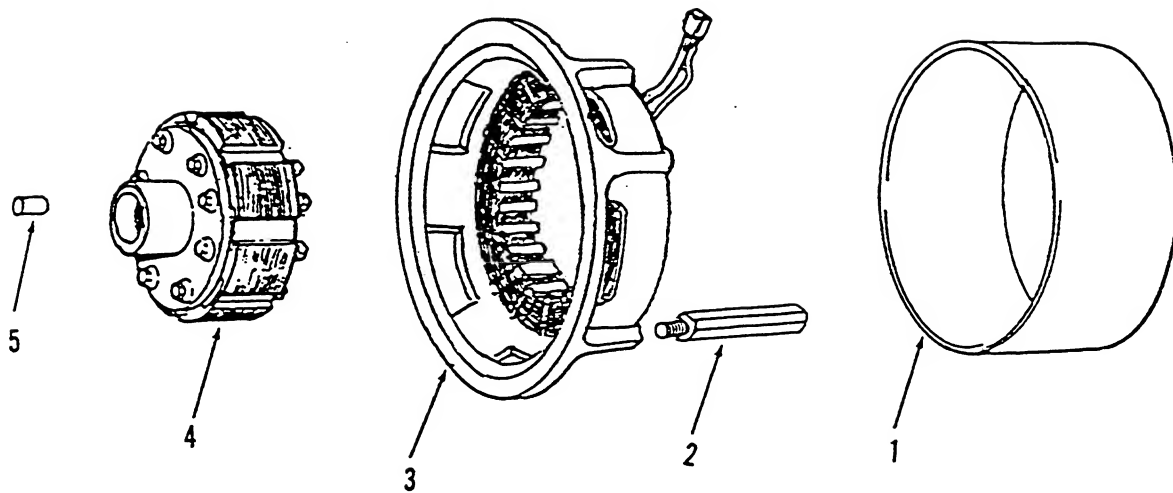


# Generator Overspeed Sensor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	862-0001	2	Nut, Hex (1/4-20)	9	854-0031	1	Washer, Lock - IT (3/4")
2	853-0013	1	Washer, Lock - EIT (1/4")	10	150-1406	1	Sensor, Speed
3	150-0723	1	Point, Overspeed	11	150-2207	1	Cover, Overspeed Switch
4	870-0250	1	Nut, Insulated	12	718-1058	1	Screw, Cap - Hex Head (M10 x 1.5 x 45mm)
5	150-2206	1	Plate, Mounting	13	856-0010	1	Washer, Lock - EIT (3/8")
	821-0005	4	Screw, Self-locking - Hex (#10-32 x 1/2")	14	150-0956	1	Switch, Overspeed
6	332-1445	5	Tie, Cable	15	370-4031	1	Spacer, Sleeve
7	338-2189-02	1	Harness, Wiring	16	150-2204	1	Wheel - Speed Sensor
8	868-0011	2	Nut, Jam - Hex (3/4-16)	17	370-4032	1	Spacer, Sleeve

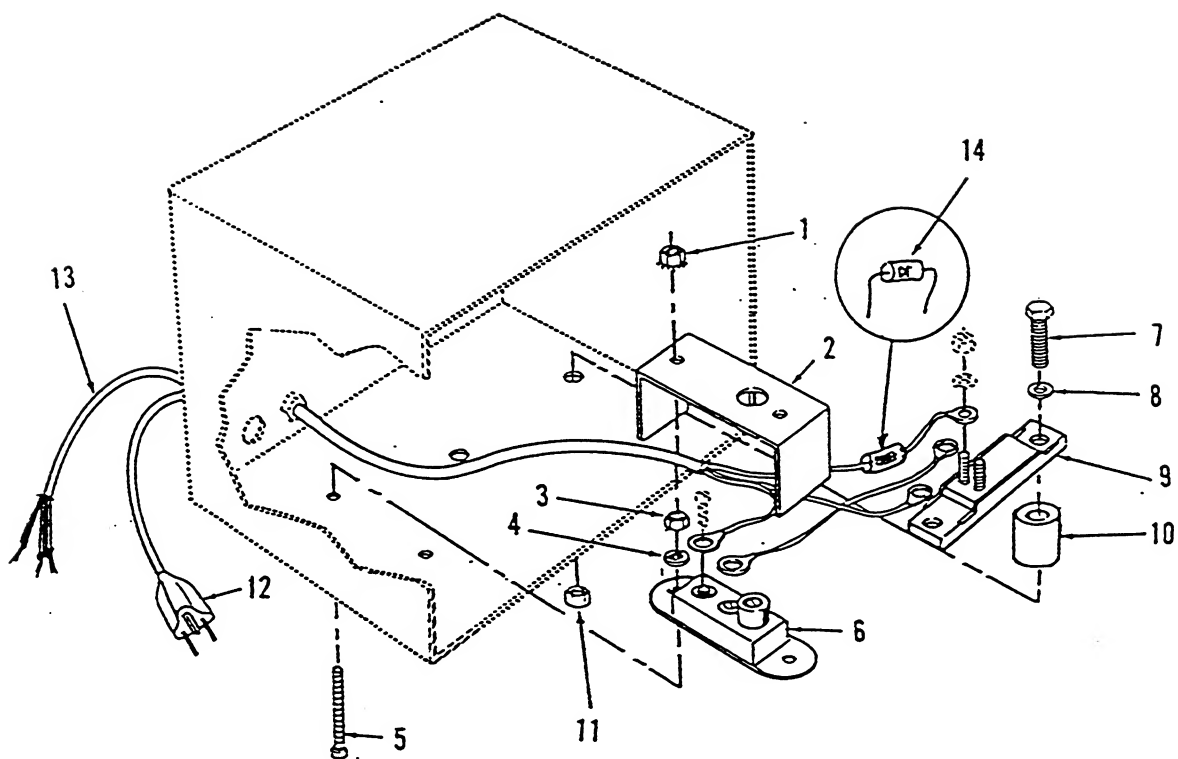
# Generator Permanent Magnet Exciter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	249-0422	1	Cover
	249-0294	3	Screw, Cap - Hex Head (M5 x 12mm)
	249-0307	3	Washer, Lock (M5)
2	249-0423	3	Pillar, Threaded

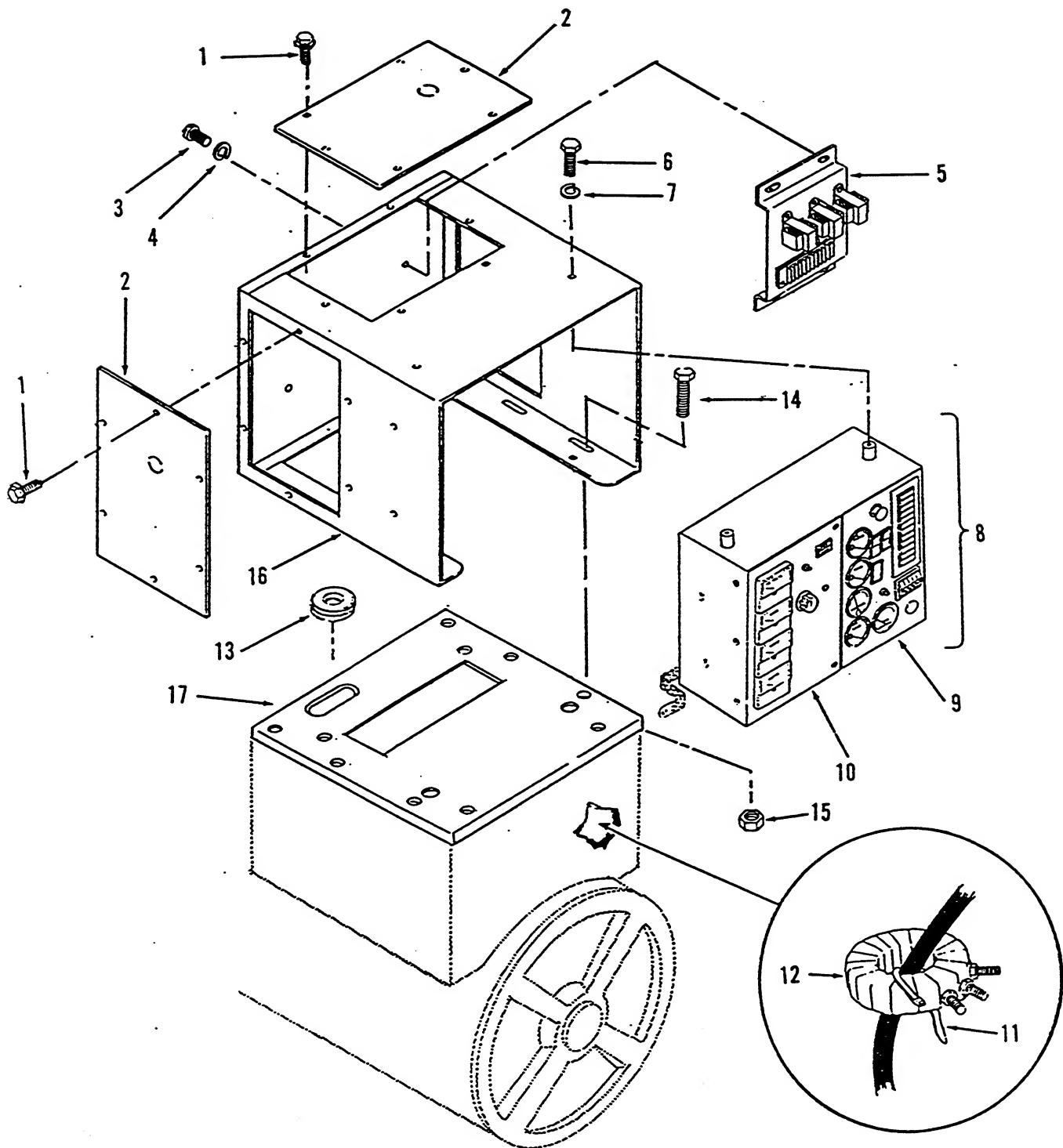
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
3	249-0426	1	Stator, Exciter with Frame
4	249-0427	1	Rotor, Exciter
	249-0399	1	Bolt
	249-0202	1	Washer, Lock (M10)
5	249-0313	1	Pin, Dowel

# Control Heater



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	870-0183	2	Nut, Self-locking - Hex (#6-32)	9	333-0151	1	Heater, Electrical 120VAC
2	301-1886	1	Cover		333-0378	1	240VAC
3	860-0006	1	Nut, Hex (#6-32)	10	130-1107	2	Spacer
4	854-0006	2	Washer, Lock - IT (#6)	11	870-0257	2	Nut, Self-locking - Hex (5/16-18)
5	812-0070	2	Screw, Machine - Round Head (#6-32 x 1-1/4")	12	335-0161	1	Cable, Electrical (120VAC Application)
6	309-0128	1	Thermostat, Adjustable	13	338-2121	1	Harness Wiring with Diode, less plug (240VAC Application)
7	800-0034	2	Screw, Cap - Hex Head (5/16-18 x 2-1/4")	14	357-0013	1	Diode
8	526-0113	2	Washer, Flat (5/16")	15	98-3232	1	Decal, Warning - Shock Hazard (Not Illustrated)

# Generator Set Control

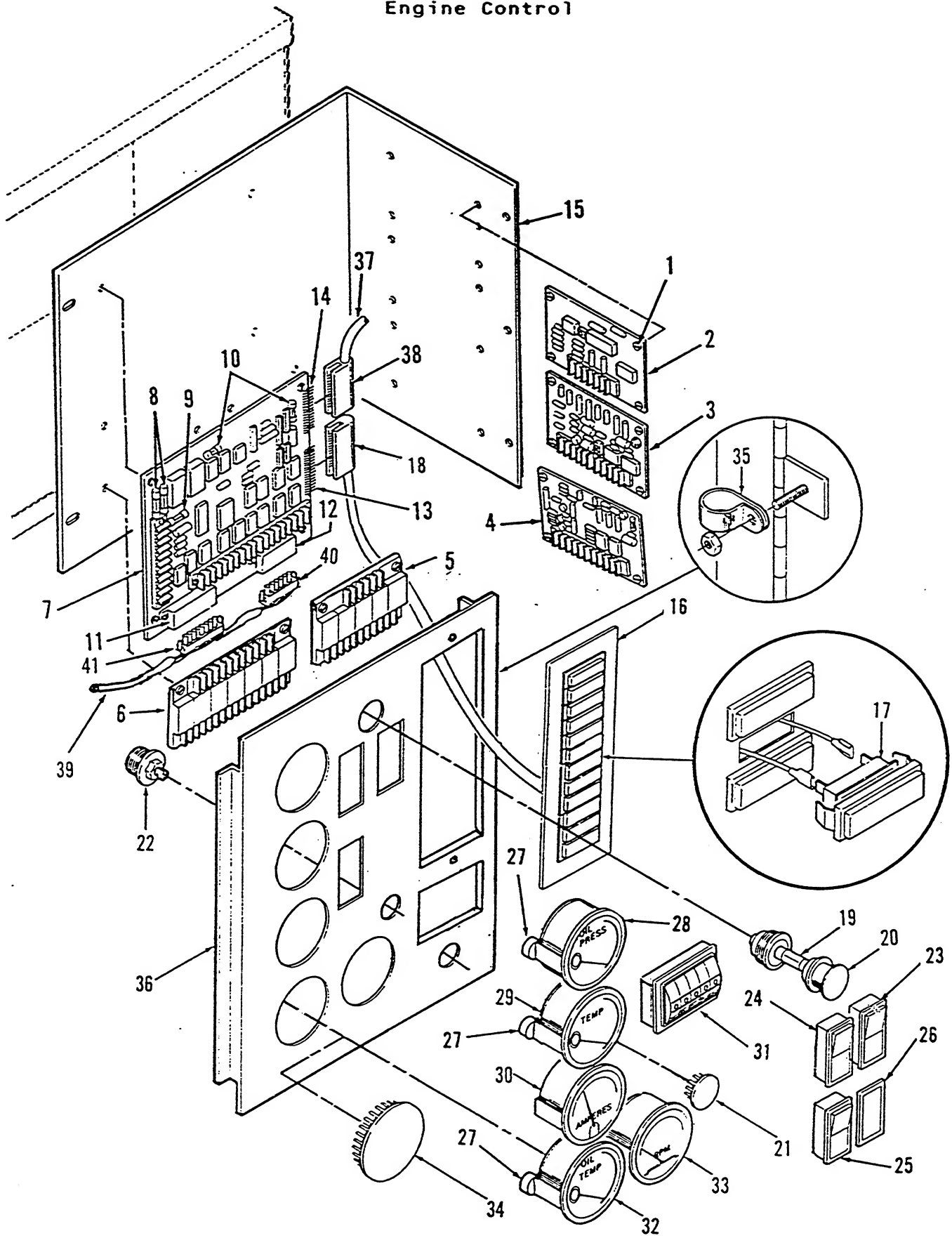


# Generator Set Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0005	18	Screw, Self-locking - Hex (#10-32 x 1/2")	10	NFS	1	Control, Generator (See Separate Page for Components)
2	NFS	3	Panel, Box - Control	11	332-0941	6	Tie, Cable
3	812-0156	4	Screw, Machine - Round Head (1/4-20 x 1/2")	12			Transformer, Current - Reconnectible
4	850-0040	4	Washer, lock - Spring (1/4")		302-1794-02	3	80kW Voltage Code H
5	NFS	1	Transformer Assy, Potential (See Separate Page for Components)		302-1794-03	3	65 & 80kW Voltage Code L, 65 & 80kW Voltage Code Z, 100kW Voltage Code H.
6	800-0051	4	Screw, Cap - Hex Head (5/16-18 x 1/2")		302-1794-04	3	85 & 100kW Voltage Code L, 85 & 100kW Voltage Code Z.
7	850-0045	4	Washer, Lock - Spring (5/16")	13	508-0051	1	Grommet
8	NFS	1	Control, Set (See Item 9 & 10 for Components)	14	821-0018	6	Screw, Self-locking - Hex Head (1/4-20 x 5/8")
9	NFS	1	Control, Engine (See Separate Page for Components)	15	870-0212	6	Nut, Self-locking - Hex (1/4-20)
				16	NFS	1	Housing, Control
				17	NFS	1	Adapter, Housing to Terminal Box

NFS - Not For Sale

# Engine Control

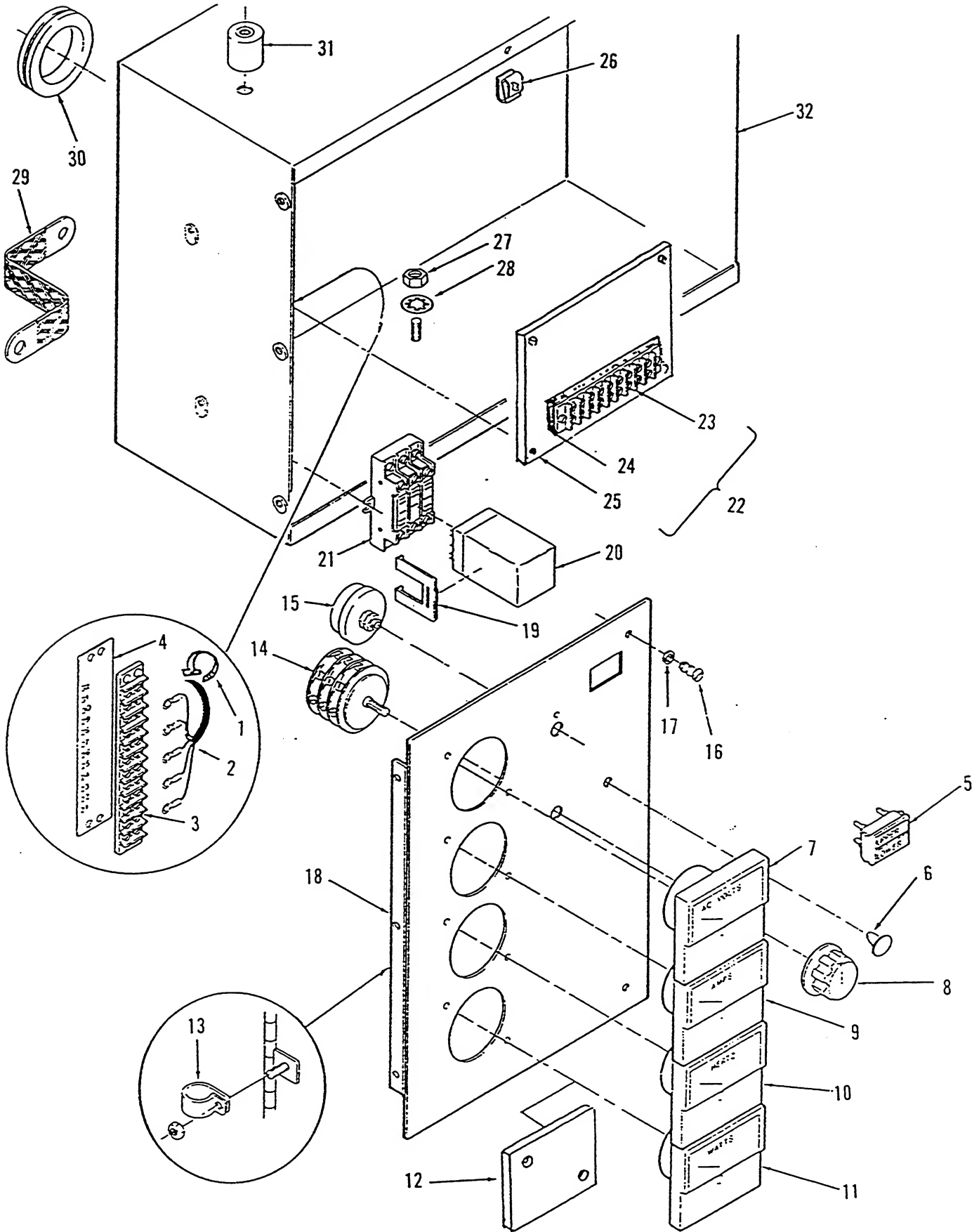


# Engine Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	815-0544	24	Screw, Machine - Round Head With IT Lock Washer (#6-32 x 1/2")	17	322-0369-02	12	Lamp, Incandescent - 1/3 Watt 28 VDC
2	300-2899	1	Board, Time Delay, Start/Stop - 24 VDC (A15)	18	323-1310	1	Housing, 13 Pin (J3)
3			Board, Magnetic Sensor, Start Disconnect/Over Speed Sensor (A16)	19	322-0017	1	Contact, Pin
	300-2903	1	Standard	20	322-0361	1	Lamp, Incandescent - 28 VDC (DS11)
	300-2904	1	Precision	21	517-0131	1	Holder, Lamp
4	300-2906	1	Board, Over-Under Voltage Sensor - 24 VDC (A17)	22	303-0280	1	Plug, Button
5	300-2856	1	Board, Relay - 24 VDC (A13)	23	308-0785	1	Potentiometer (R11)
6	300-2863	1	Board, Relay - 24 VDC (A14)	24	308-0784	1	Switch, Push (S11)
7			Board, Engine Monitor (A11) (Includes Fuses and Connectors)	26	301-6257	1	Switch, Push (S12)
	300-2808	1	24 VDC, 2 Light	27	193-0250	1	Cover
	300-2812	1	24 VDC, 12 Light	28	193-0352	3	Resistor, Gauge (R12)
8	321-0270	2	Fuse, Cartridge - 20 Amp (F1, F2)	29	193-0351	1	Gauge, Pressure - Oil (M11)
9	321-0231	1	Fuse, Cartridge - 15 Amp (F3)	30	302-1790	1	Gauge, Temperature - Water (M12)
10	321-0094	2	Fuse, Cartridge - 5 Amp (F4, F5)	31	302-0885	1	Ammeter (M13)
11	323-1305	1	Connector, 8 Pin (P1)		815-0385	2	Meter, Totalizing - Time (M14)
12	323-1303	1	Connector, 6 Pin (P2)		870-0183	2	Screw, Machine - Round Head (#6-31 x 1/2")
13	323-1309	1	Connector, 13 Pin (P3)	32	193-0330	1	Nut, Hex with ET Lockwasher (#6-32)
14	323-1307	1	Connector, 12 Pin (P4)	33	302-1715	1	Gauge, Temperature - Oil (M15)
15	NFS	1	Bracket, Mounting	34	517-0221	1	Tachometer (M16)
	821-0004	4	Screw, Self-locking - Hex Hd (#10-32 x 5/16")	35	322-0052	1	Plug, Button
16			Module, Indicator - Fault (Includes Replaceable Lamps, Harness with Connector Housing & Contact Pins)(A12)		870-0131	1	Clamp, Loop
	322-0358-02	1	24 VDC, 2 Light	36	NFS		Nut, Hex with ET Lockwasher (#10-32 x 1/2")
	322-0360-02	1	24 VDC, 12 Light	37	338-1817	1	Door, Control
	815-0385	2	Screw, Machine - Round Head (#6-32 x 1/2")	38	323-1308	1	Harness, Wiring - DC Meter (Includes Connector & Pins)
	870-0183	2	Nut, Self-locking - Hex (#6-32)	39	323-1302	12	Housing, 12 Pin (J4)
					323-1302	12	Contact, Pin
					338-2171	1	Harness, Wiring - Control to Engine (Includes Connectors and Pins)
				40	323-1304	1	Housing, 6 Pin
					323-1200	6	Contact, Pin
				41	323-1306	1	Housing, 8 Pin
					323-1200	8	Contact, Pin

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# Generator Control



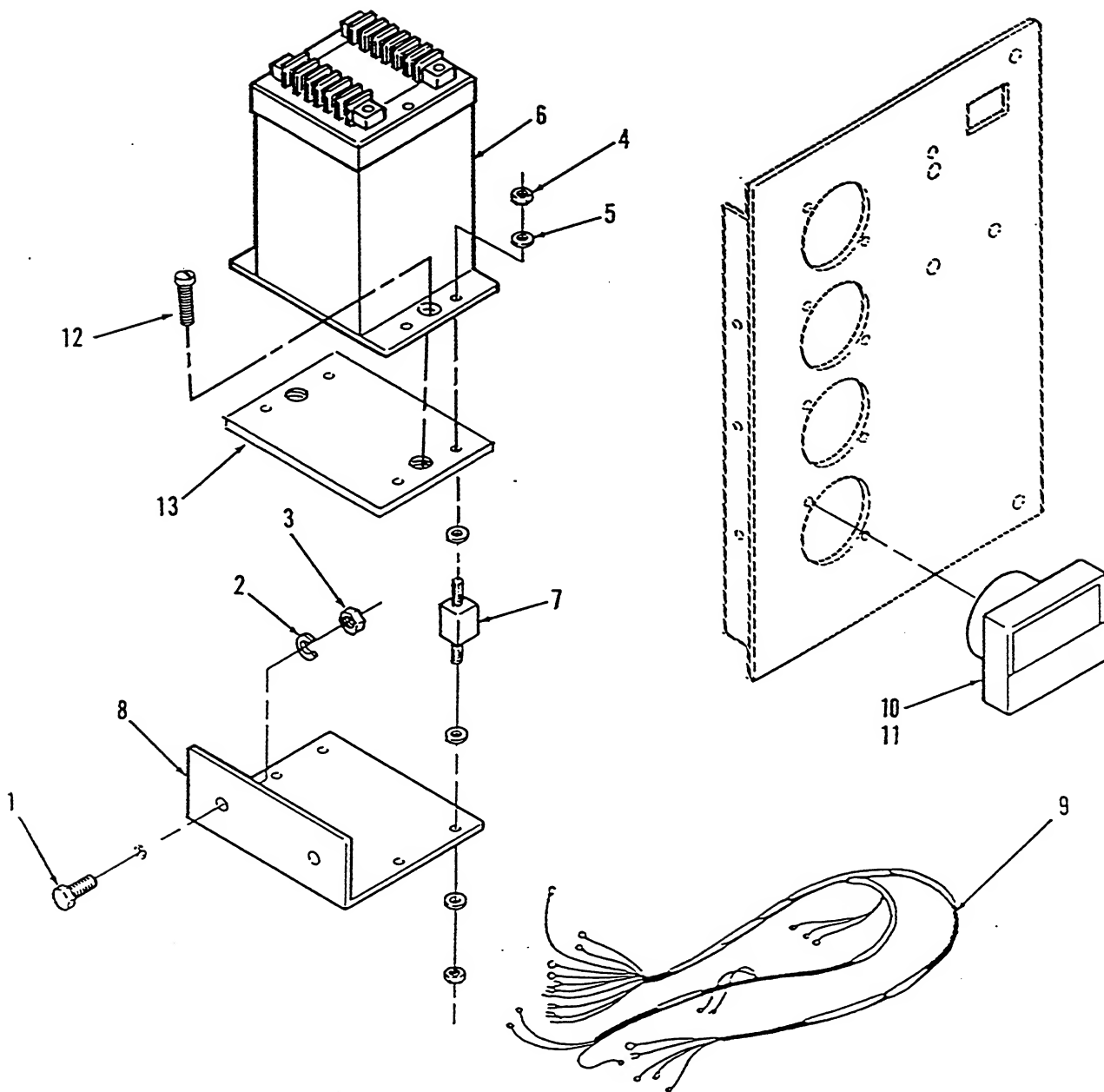


# Generator Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-1445	2	Tie, Cable	14	308-0284	1	Switch, Rotary (S21)
2			Harness, Wiring	15	303-0261	1	Rheostat (R21)
	338-1818	1	Control with Meters	16	406-0334	2	Clip, Fastener
			(Includes Terminal Block)	17	406-0333	2	Stud, Fastener
	338-1853	1	Control without Meters	18	NFS	1	Door, Control
	812-0065	2	Screw, Machine - Round Head		821-0004	3	Screw, Self-locking - Hex
			(#6-32 x 5/8")				(#10-32 x 5/16")
3	332-0607	1	Block, Terminal (TB1)	19	307-1987	2	Clip, Relay
4	332-2723	1	Strip, Marker	20	307-1056	1	Relay, 24 VDC (K21)
5	322-0363	1	Light, Indicator - Dual	21	323-0804	1	Socket, Relay
			(DS21, DS22)		815-0544	2	Screw, Machine - Round Head
6	517-0131	1	Plug, Button				with IT Lock Washer
7			Voltmeter (M21)				(#6-32 x 1/2")
	302-1148	1	Dual Scale 0-300/0-600V	22	NFS	1	Terminal Board Assembly
	302-1753	1	Single Scale 0-750V		812-0065	4	Screw, Machine - Round Head
8	303-0032	1	Knob				(#6-32 x 5/8")
9			Ammeter (M22)	23	332-0751	1	Block, Terminal
			Single Scale Voltage Code H		812-0066	2	Screw, Machine - Round Head
	302-1691	1	80kW, 0-100 Amp				(#6-32 x 3/4")
	302-1805-02	1	100kW, 0-150 Amp	24	332-0853	1	Strip, Marker
			Dual Scale Volt. Codes L & Z	25	NFS	1	Plate
	302-1684	1	65 & 80kW, 0-150/0-300 Amp	26	406-0332	2	Receptacle, Fastener
	302-1685	1	85 & 100kW, 0-200/0-400 Amp	27	871-0015	1	Nut, Hex (1/4-20)
10	302-1720	1	Meter, Frequency (M23)	28	853-0013	1	Washer, Lock - ET (1/4")
11		1	Wattmeter (M24) (See	29	337-0049	1	Strap, Electrical (Ground)
			Separate page for Components)		800-0024	1	Screw, Cap - Hex Head
12	NFS	1	Cover, Meter Hole				(5/16-18 x 1/2")
	815-0385	2	Screw, Machine - Round Head,		856-0008	1	Washer, Lock - EIT (5/16")
			Black (#6-32 x 1/2")	30	508-0051	1	Grommet
	870-0183	2	Nut, Hex with ET Lockwasher	31	402-0527	2	Mount, Vibration
			(#6-32)		800-0051	4	Screw, Cap - Hex Head
13	332-0052	1	Clamp, Loop				(5/16-18 x 1/2")
	870-0131	1	Nut, Self-locking - Hex with		850-0045	4	Washer, Lock - Spring
			ET Lock Washer (#10-32)				(5/16")
				32	NFS	1	Box, Control

NFS - Not For Sale

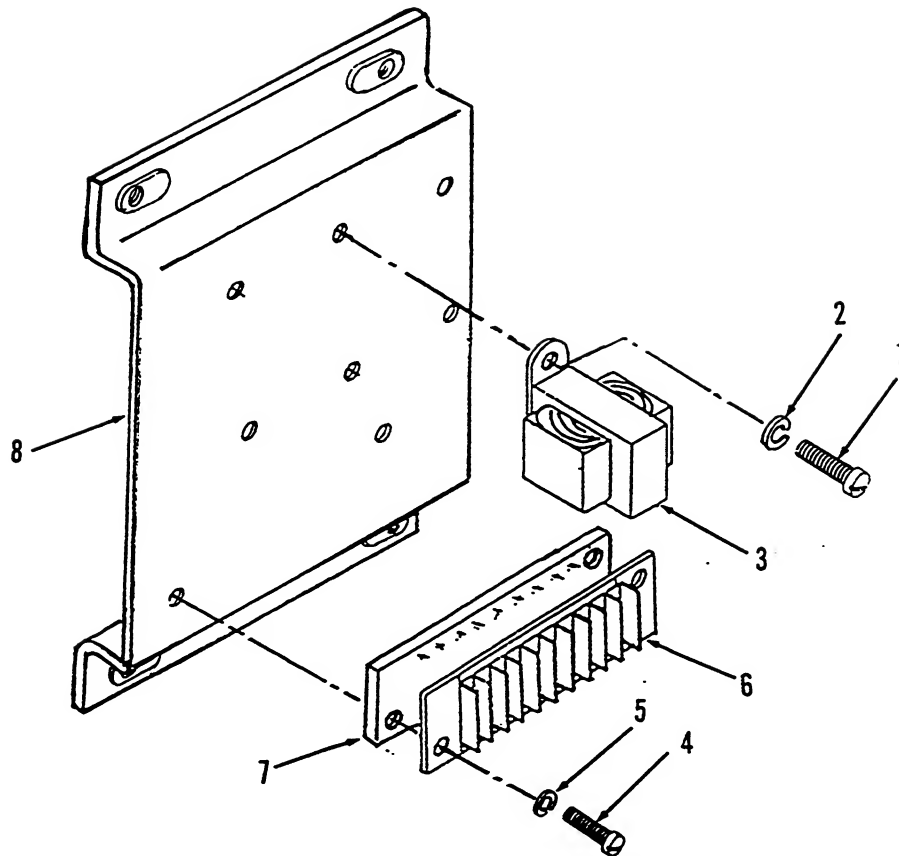
# Wattmeter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0017	2	Screw, Cap - Hex Head (5/16-18 x 1/2")
2	850-0045	2	Washer, Lock (5/16)
3	862-0014	2	Nut, Hex (5/16-18)
4	860-0008	8	Nut, Hex (#8-32)
5	856-0002	16	Washer, Lock - ET (#8)
6	302-1833-01	1	Transducer, Watt
7	402-0354	4	Mount, Shock

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	301-6987	1	Bracket, Mounting
9	338-1936	1	Harness, Wiring
10	302-1722	1	Wattmeter (Less Dial)
11	302-1721-04	1	Dial, Wattmeter
	302-1721-05	1	DNDA, DWDA
	813-0102	2	DN08, DW08
12	813-0102	2	Screw, Machine - Round Head (#10-32 x 3/8")
13	319-0030	1	Plate, Support - Transducer

# Potential Transformer



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	812-0079	6	Screw, Machine - Round Head (#8-32 x 1/2")	5	850-0025	2	Washer, Lock - Spring (#8)
2	850-0025	6	Washer, Lock - Spring (#8)	6	332-2562	1	Block, Terminal (10 Place)
3	315-0642	3	Transformer, Potential	7	332-2563	1	Strip, Marker
4	812-0077	2	Screw, Machine - Round Head (#8-32 x 3/8")	8	NFS	1	Bracket, Mounting

NFS - Not For Sale

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## NOTES

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This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal black lines across its entire width, typical of standard notebook paper. The background is a uniform off-white color, and there are no margins, text, or other markings present.

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